

Figure 1

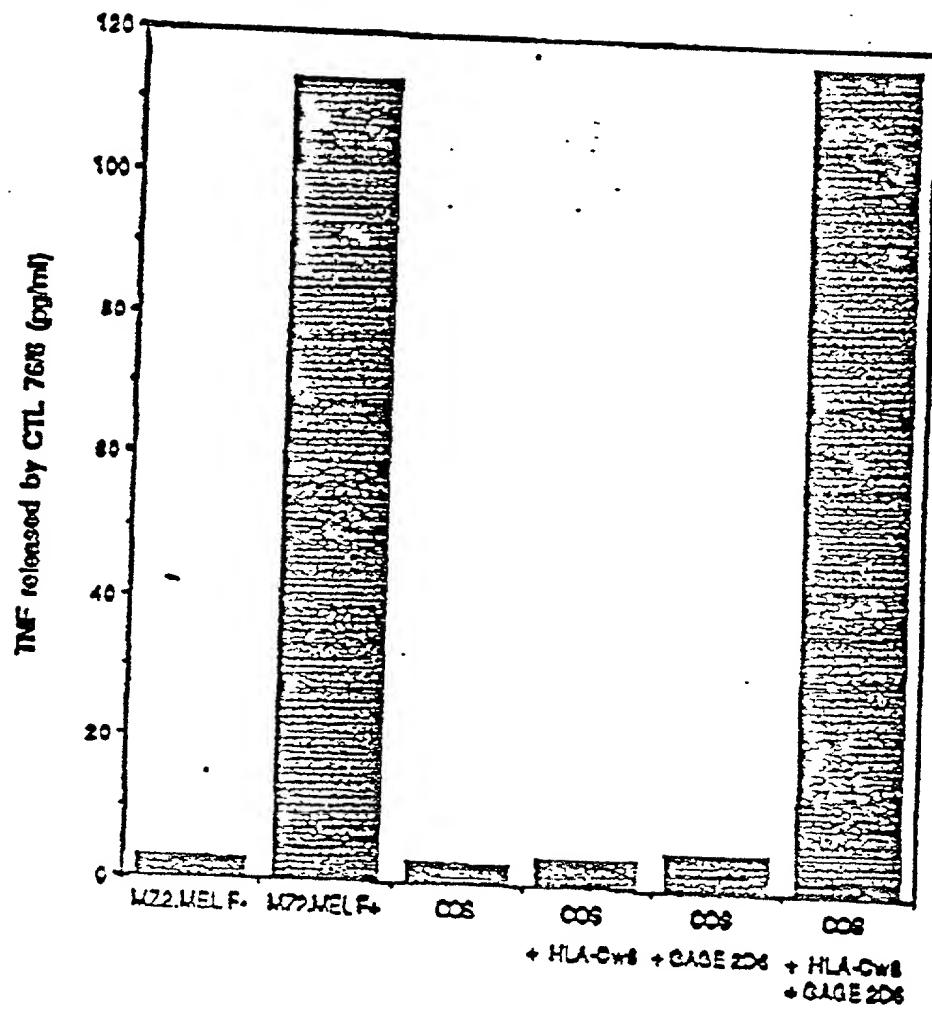


Figure 3

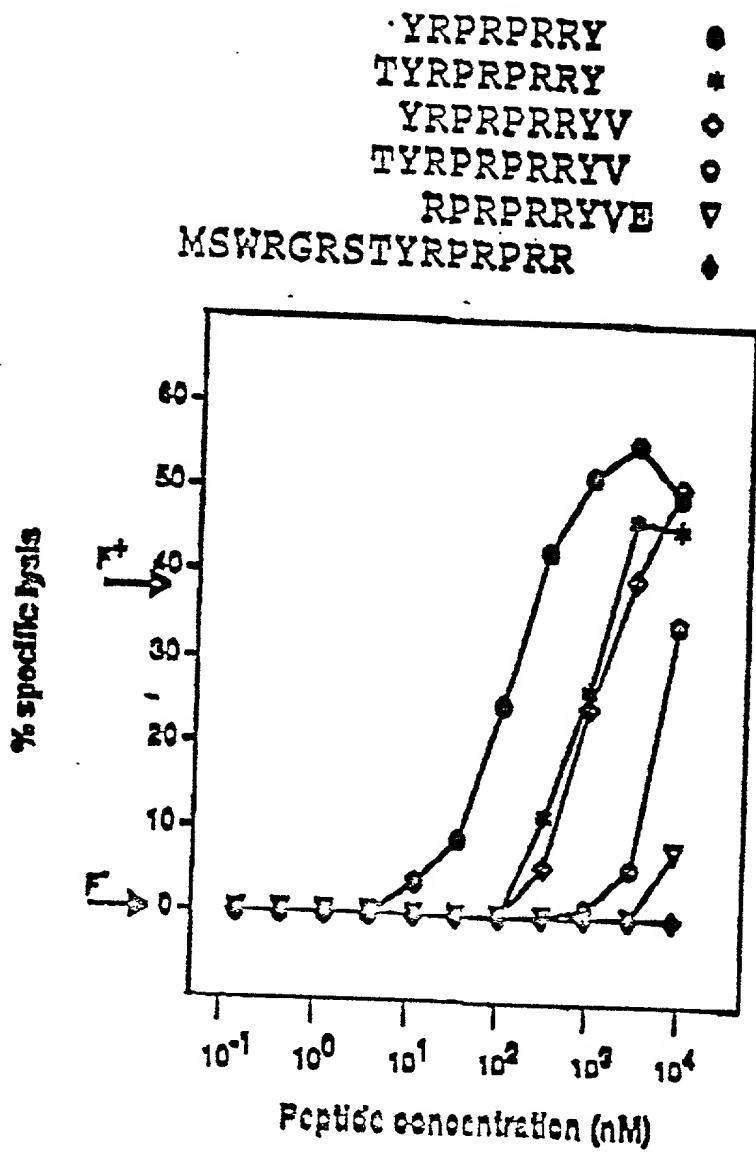


Figure 3

VDE 44

GAGE-1	TCTGTCGAGAAATCTGGTGGGAGGAACTA	TCGACG--ATCGGGCTAGACCAAGGGC	TAATGATACGCTCTGAACTGATGAGGCTT
GAGE-2	TCTGTCGAGAAATCTGGTGGGAGGAACTA	TCGACG--ATCGGGCTAGACCAAGGGC	TAATGATACGCTCTGAACTGATGAGGCTT
GAGE-3	TCTGTCGAGAAATCTGGTGGGAGGAACTA	TCGACG--ATCGGGCTAGACCAAGGGC	TAATGATACGCTCTGAACTGATGAGGCTT
GAGE-4	TCTGTCGAGAAATCTGGTGGGAGGAACTA	TCGACG--ATCGGGCTAGACCAAGGGC	TAATGATACGCTCTGAACTGATGAGGCTT
GAGE-5	TCTGTCGAGAAATCTGGTGGGAGGAACTA	TCGACG--ATCGGGCTAGACCAAGGGC	TAATGATACGCTCTGAACTGATGAGGCTT
GAGE-6	TCTGTCGAGAAATCTGGTGGGAGGAACTA	TCGACG--ATCGGGCTAGACCAAGGGC	TAATGATACGCTCTGAACTGATGAGGCTT

VDE 43

GAGE-1	ATCGGGGCCCCAGCCACTTCAGTCATGAGTGC	GUACCAACACACCTGAAAGGAGGAAACCA	CCAACTCTCAACGGTCAAGGATCTCTCCAGCTGCT
GAGE-2	ATCGGGGCCCCAGCCACTTCAGTCATGAGTGC	GUACCAACACACCTGAAAGGAGGAAACCA	CCAACTCTCAACGGTCAAGGATCTCTCCAGCTGCT
GAGE-3	ATCGGGGCCCCAGCCACTTCAGTCATGAGTGC	GUACCAACACACCTGAAAGGAGGAAACCA	CCAACTCTCAACGGTCAAGGATCTCTCCAGCTGCT
GAGE-4	ATCGGGGCCCCAGCCACTTCAGTCATGAGTGC	GUACCAACACACCTGAAAGGAGGAAACCA	CCAACTCTCAACGGTCAAGGATCTCTCCAGCTGCT
GAGE-5	ATCGGGGCCCCAGCCACTTCAGTCATGAGTGC	GUACCAACACACCTGAAAGGAGGAAACCA	CCAACTCTCAACGGTCAAGGATCTCTCCAGCTGCT
GAGE-6	ATCGGGGCCCCAGCCACTTCAGTCATGAGTGC	GUACCAACACACCTGAAAGGAGGAAACCA	CCAACTCTCAACGGTCAAGGATCTCTCCAGCTGCT

GAGE-1	CGGGAGGGAGGAGTGAAGGAGCATCTGCA	GGTCAGGGCGGAGGCTGAGCTT	ATAGC	CAGGAAACAGGGTTACCCACAGACTGGCTGT
GAGE-3	CGGGAGGGAGGAGTGAAGGAGCATCTGCA	GGTCAGGGCGGAGGCTGAGCTT	ATAGC	CAGGAAACAGGGTTACCCACAGACTGGCTGT
GAGE-3	CGGGAGGGAGGAGTGAAGGAGCATCTGCA	GGTCAGGGCGGAGGCTGAGCTT	ATAGC	CAGGAAACAGGGTTACCCACAGACTGGCTGT
GAGE-4	CGGGAGGGAGGAGTGAAGGAGCATCTGCA	GGTCAGGGCGGAGGCTGAGCTT	ATAGC	CAGGAAACAGGGTTACCCACAGACTGGCTGT
GAGE-5	CGGGAGGGAGGAGTGAAGGAGCATCTGCA	GGTCAGGGCGGAGGCTGAGCTT	ATAGC	CAGGAAACAGGGTTACCCACAGACTGGCTGT
GAGE-6	CGGGAGGGAGGAGTGAAGGAGCATCTGCA	GGTCAGGGCGGAGGCTGAGCTT	ATAGC	CAGGAAACAGGGTTACCCACAGACTGGCTGT

VDE 24

GAGE-1	GAGTGTGAGCATGGTCTGATGGCAGGAG	ATGACCCGCCAATTCAGAGGGTGAA	ACCCCTGAGAAGACATGAGGTGCACTA
GAGE-2	GAGTGTGAGCATGGTCTGATGGCAGGAG	ATGACCCGCCAATTCAGAGGGTGAA	ACCCCTGAGAAGACATGAGGTGCACTA
GAGE-3	GAGTGTGAGCATGGTCTGATGGCAGGAG	ATGACCCGCCAATTCAGAGGGTGAA	ACCCCTGAGAAGACATGAGGTGCACTA
GAGE-4	GAGTGTGAGCATGGTCTGATGGCAGGAG	ATGACCCGCCAATTCAGAGGGTGAA	ACCCCTGAGAAGACATGAGGTGCACTA
GAGE-5	GAGTGTGAGCATGGTCTGATGGCAGGAG	ATGACCCGCCAATTCAGAGGGTGAA	ACCCCTGAGAAGACATGAGGTGCACTA
GAGE-6	GAGTGTGAGCATGGTCTGATGGCAGGAG	ATGACCCGCCAATTCAGAGGGTGAA	ACCCCTGAGAAGACATGAGGTGCACTA

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GAGE-1	CTTGGCCAGACTGGGATTCTGTGGCTTTA ATGAACTATTCGTTTAAATCTTTCCCA CGGAAACCT GGTGACTGAAATATGAA
GAGE-2	.....
GAGE-3	.....
GAGE-4	.....
GAGE-5	.....
GAGE-6	.....

GAGE-1	GGCGAGAGACCGTTAGTTCATCTG	GGCGATGAGACCGATCACAGGTTTAA	AGAGAGCA- <b>GGCGAATG</b> -GGAGGTGCG
GAGE-2	.....	.....	.....
GAGE-3	.....	.....	.....
GAGE-4	.....	.....	.....
GAGE-5	.....	.....	.....
GAGE-6	.....	.....	.....

GAGE-1	CCTATGTTGAAATTTTCATTCAGTC	TCCTCATTAAGCTTACACCCCTTTC
GAGE-2	CCTATGTTGAAATTTTCATTCAGTC	TCCTCATTAAGCTTACACCCCTTTC
GAGE-3	CCTATGTTGAAATTTTCATTCAGTC	TCCTCATTAAGCTTACACCCCTTTC
GAGE-4	CCTATGTTGAAATTTTCATTCAGTC	TCCTCATTAAGCTTACACCCCTTTC
GAGE-5	CCTATGTTGAAATTTTCATTCAGTC	TCCTCATTAAGCTTACACCCCTTTC
GAGE-6	CCTATGTTGAAATTTTCATTCAGTC	TCCTCATTAAGCTTACACCCCTTTC

Figure 4

antigenic  
peptide

GAGE-1	MS-HRGSTVPRPRRYVPPPEI	GPMRPEQFSDDEVEPATPPEEGIPATO	RQDPAAQEGEDEGASAGQGPKEA	7
GAGE-2	MS-HRGSTVPRPRRYVPPPEI	GPMRPEQFSDDEV2PATPPEEGIPATO	RQDPAAQEGED2GASAGQGPKEA	7
GAGE-3	MSLRSQGTSITMHRPRRYVPPPEI	GPMRPEQFSDDEVEPATPPEEGIPATO	RQDPAAQEGEDEGASAGQGPKEA	7
GAGE-4	MS-HRGSTVPRPRRYVPPPEI	GPMRPEQFSDDEVEPATPPEEGIPATO	RQDPAAQEGED2GASAGQGPKEA	7
GAGE-5	MS-HRGSTVPRPRRYVPPPEI	GPMRPEQFSDDEVEPATPPEEGIPATO	RQDPAAQEGEDEGASAGQGPKEA	7
GAGE-6	MS-HRGSTVPRPRRYVPPPEI	GPMRPEQFSDDEVIPATPPEEGIPATO	RQDPAAQEGEDEGASAGQGPKEA	7

GAGE-1	DSQEQQHPQTGCECEDGPDQEYDP	PKPEEVKTPPEEIKRSQEVQGILW	LLKRNCP2LKLSPKRP	13
GAGE-2	DSQEQQHPQTGCECEDGPDQEYDP	PKPEEVKTPPEEIKQSQC	-----	11
GAGE-3	DSQEQQHPQTGCECEDGPDQEYDP	PKPEEVKTPPEEIKQSQC	-----	11
GAGE-4	DSQEQQHPQTGCECEDGPDQEYDP	PKPEEVKTPPEEIKQSQC	-----	11
GAGE-5	DSQEQQHPQTGCECEDGPDQEYDP	PKPEEVKTPPEEIKQSQC	-----	11
GAGE-6	DSQEQQHPQTGCECEDGPDQEYDP	PKPEEVKTPPEEIKQSQC	-----	11

FIGURE 5

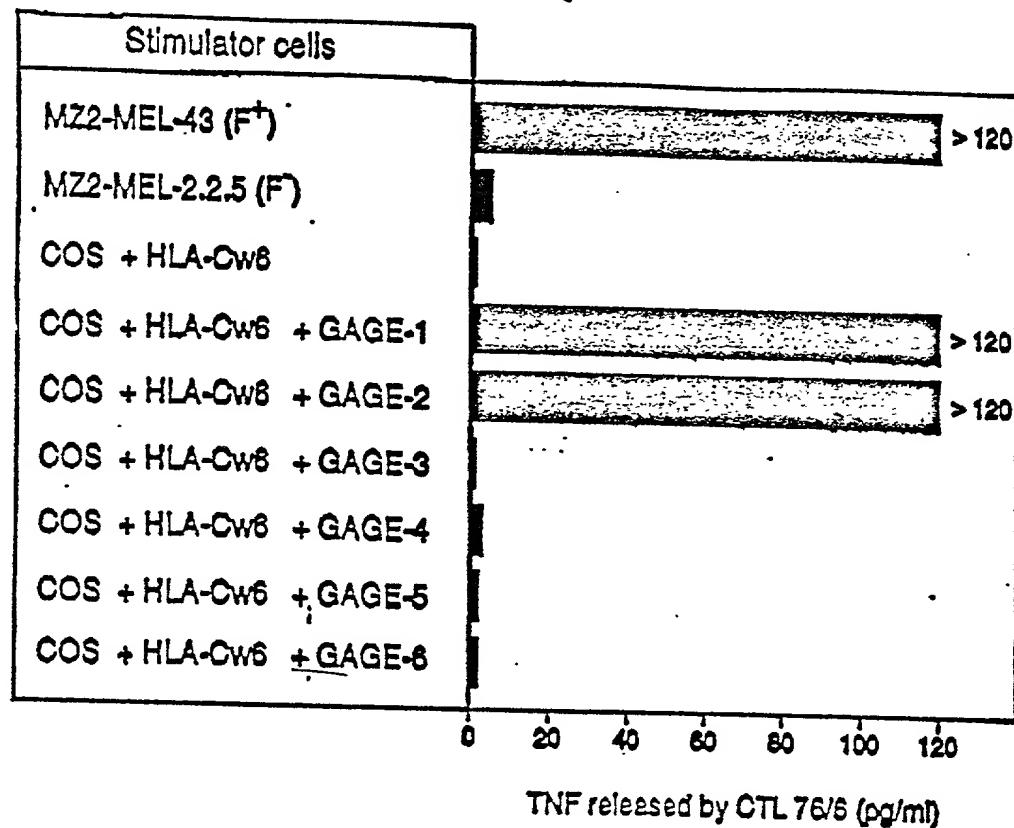


FIGURE 6

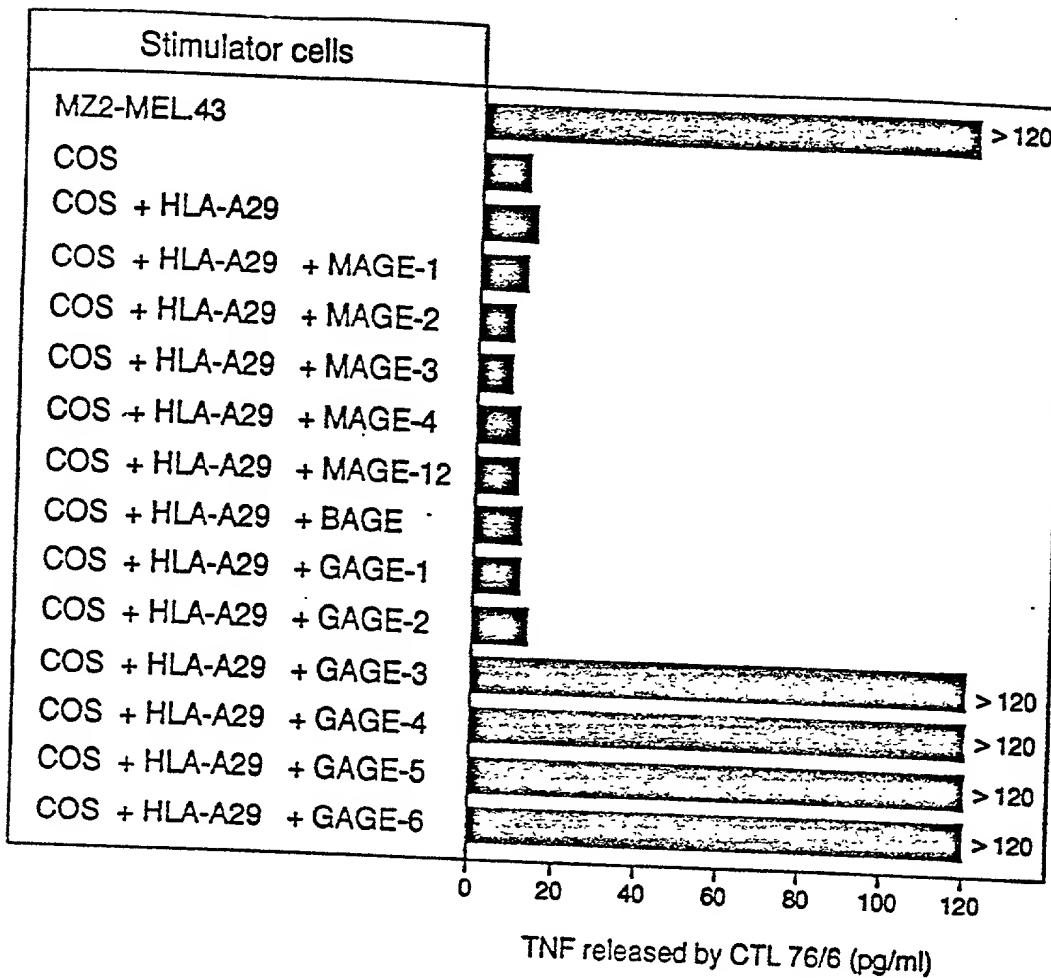


Figure 7. Stimulation of MZ2-CTL 22/23 by COS-7 cells transiently transfected with an HLA-A29 cDNA and MAGE, BAGE or GAGE cDNA. The CTL was added after 24 hours and the production of TNF was estimated 24 hours later. MZ2-MEL.43 was used as a positive control stimulator cell.

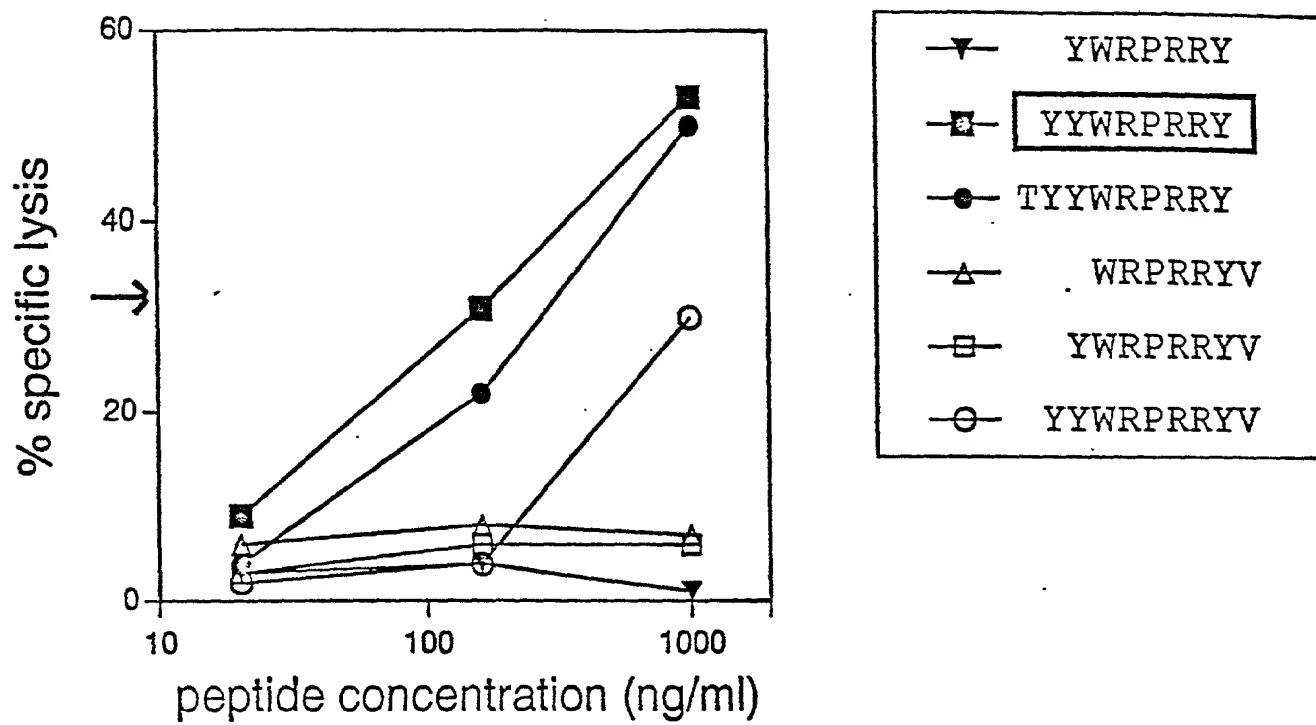


Figure 6. Lysis by MZ2-CTL 22/23 of lymphoblastoid cell line LB17-EBV incubated with GAGE-encoded peptide YYWPRPRRY. Thousand 51Cr-labelled LB17-EBV target cells were incubated in 96 well microplates in the presence of various concentrations of peptide for 15 minutes at 37°C. An equal volume containing 6000 CTL was then added. Chromium release was measured after 4 hours at 37°C. We have indicated the final concentration of peptides during the incubation of the target cells with the CTL. The arrow indicates the percentage of lysis of MZ2-MEL.43 cells.